

# U.S. Army Materiel Command

COL James Naughton

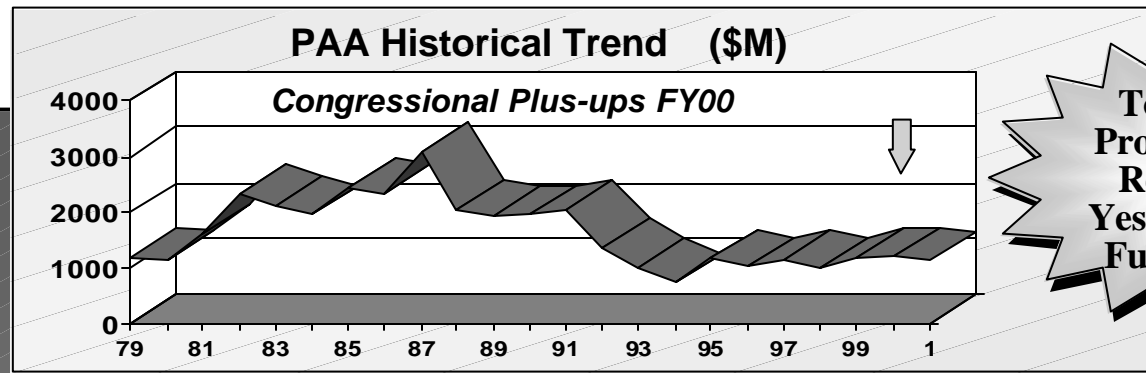
## **Ammunition Update to Munitions Summit**

February 2001



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# PAA - Funding Profile

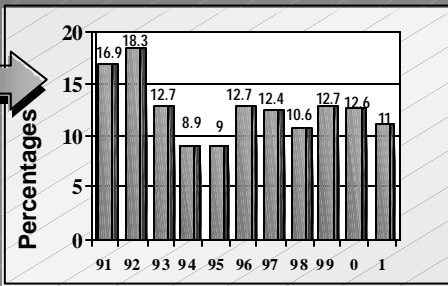


**Today's  
Production  
Reflects  
Yesterday's  
Funding -**

## Procurement as a Percentage of Army Budget - FY00/FY01

| Army Budget<br>(\$ in Millions) |               |               |
|---------------------------------|---------------|---------------|
| APPROPRIATION                   | FY00          | FY01          |
| FAMILY HOUSING                  | 1,142         | 1,188         |
| MIL PERSONNEL                   | 27,934        | 28,373        |
| RDTE                            | 5,245         | 6,298         |
| MCA                             | 1,573         | 1,300         |
| OMA                             | 26,946        | 23,827        |
| <b>PROCUREMENT</b>              | <b>9,443</b>  | <b>11,005</b> |
| ERA                             |               | 390           |
| BRAC                            | 144           | 280           |
| CHEM DEMIL                      | 1,023         | 980           |
| AWCF                            | 62            |               |
| <b>TOTAL*</b>                   | <b>73,510</b> | <b>73,641</b> |

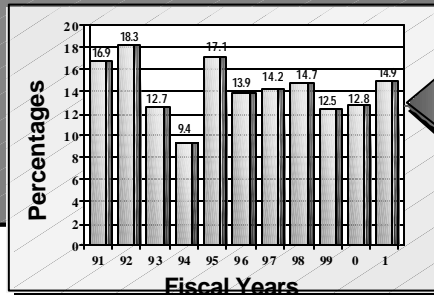
\*Totals may not add due to rounding



## Procurement Appropriation (\$ in Millions)

| APPROPRIATION     | FY00         | FY01          |
|-------------------|--------------|---------------|
| AIRCRAFT          | 1,507        | 1,561         |
| MISSILES          | 1,309        | 1,311         |
| WTCV              | 1,712        | 2,455         |
| <b>AMMUNITION</b> | <b>1,193</b> | <b>1,212</b>  |
| OTHER PROCUREMENT | 3,722        | 4,466         |
| <b>TOTAL</b>      | <b>9,443</b> | <b>11,005</b> |

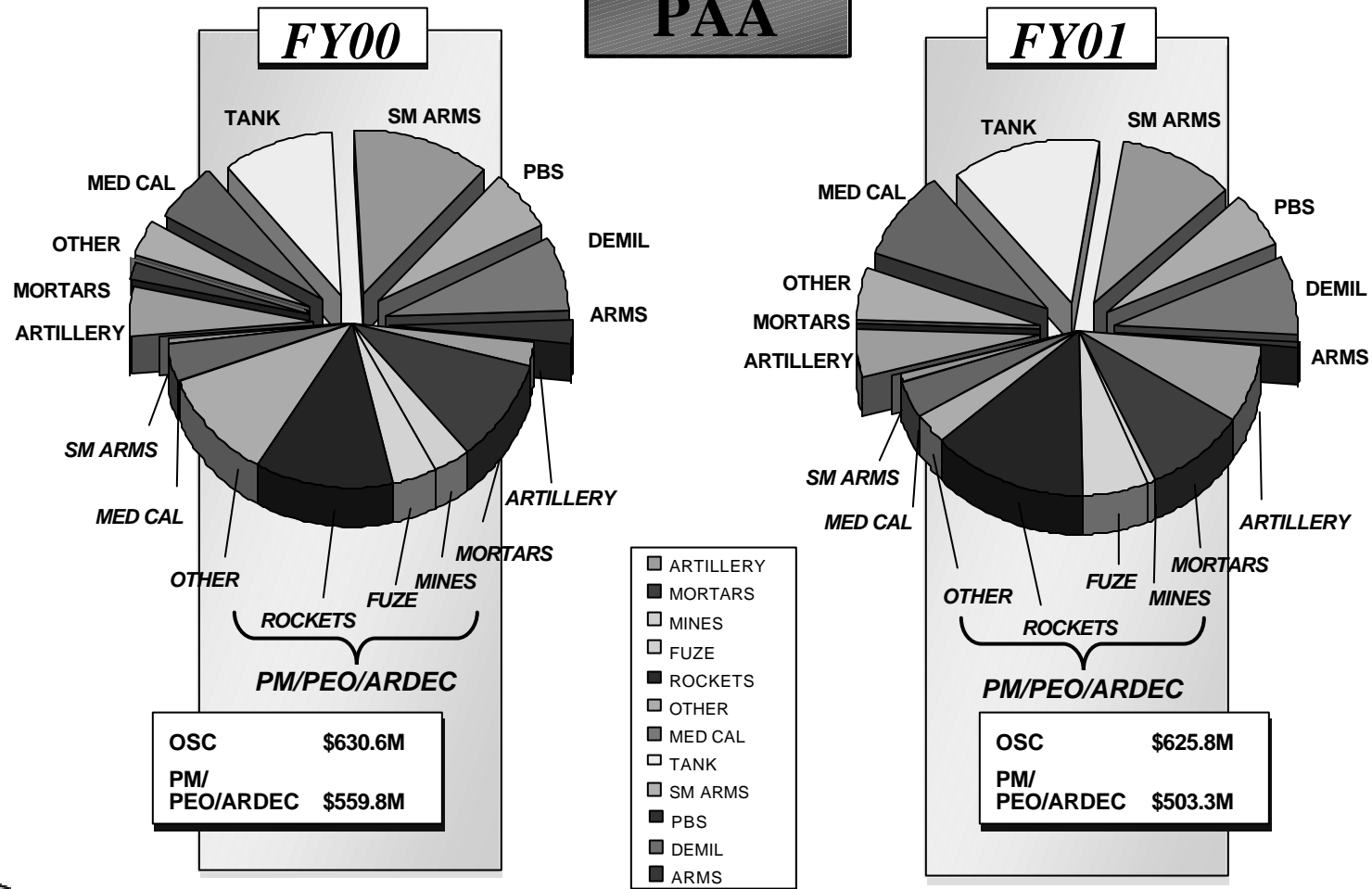
## Ammunition as a Percentage of The Procurement Budget - FY00/FY01



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# Army Ammo Funded Requirements

**PAA**



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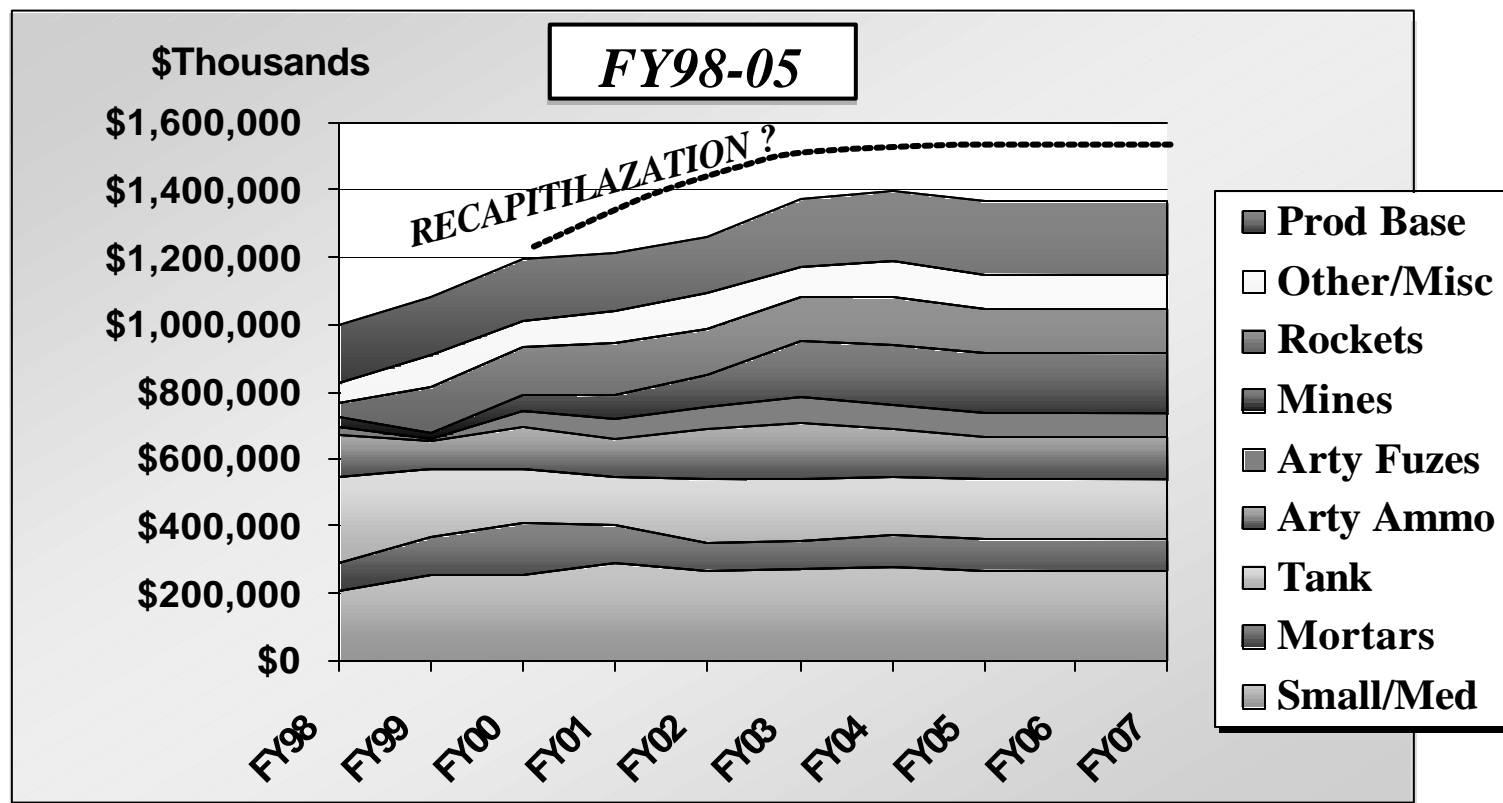
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# Ammunition Procurement Projection

## by Categories



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# Munitions FAA - 2000

- ✓ **Precision Munitions** - *can reduce Army Logistics Footprint, but pace is too slow*
- ✓ **Serious Issues in Fire Support** - *aging stockpile, delayed modernization*
- ✓ **Recapitalization Focus** - *support for Low Cost Competent Munitions to bridge modernization gap, remanufacture part of stockpile*
- ✓ **Industrial Base** - *Continue “commercialization” strategy to yield cost /process efficiencies with domestic/global competitiveness*



# Precision Munitions and Logistics Study

(PMLS)

## \* Objectives

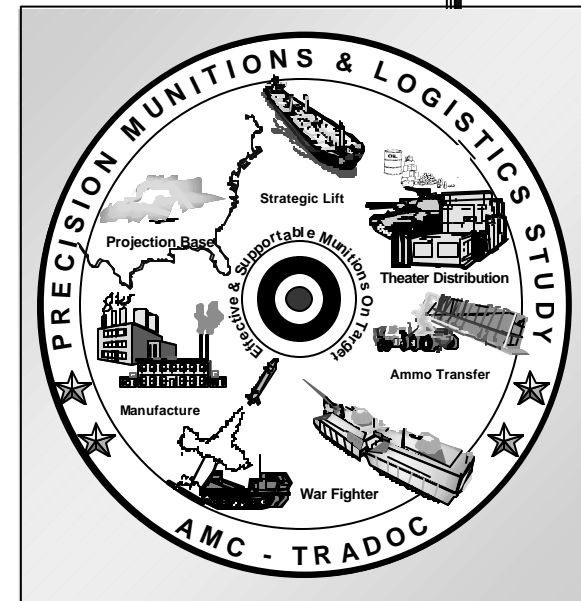
- Cost Effect - Increase Modern Munitions Investment
- Quantify Total Life-Cycle Cost
  - Modern Precision Munitions Vs. Non-Precision Munitions

## \* Study Assessment

- Logistic Footprint
- Deployability
- Force Structure/Composition
- Speed to Defeat
- Survivability
- Collateral Damage

## \* PMLS SAG Tri-Chaired by:

- AMC, TRADOC & DCSOPS



*Modern Munitions - Effectiveness & Quantified Returns On Investment*



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# Precision Munitions (PMs)

| <b>PRECISION</b>   |   |  |   |
|--|---|--|---|
| <b><i>“Dumb”</i></b>   | <b><i>“Competent/<br/>Guided”</i></b>   | <b><i>“Smart”</i></b>  | <b><i>“Brilliant”</i></b>   |
| <ul style="list-style-type: none"> <li>– Conventional rounds</li> <li>– No guidance after firing</li> <li>– Account for vast majority of war reserve</li> <li>– Low cost</li> <li>– e.g. M107HE</li> </ul> | <ul style="list-style-type: none"> <li>– Target acq, provided by external source (GPS, laser, etc.)</li> <li>– May be mod of conventional round</li> <li>– May have operator in loop</li> <li>– e.g., JDAM, GMLRS-ER, Excalibur,</li> <li>– Copperhead</li> </ul> | <ul style="list-style-type: none"> <li>– Self-contained ability to search, detect, acquire &amp; engage targets</li> <li>– 50-100X lethality improvement over conventional</li> <li>– e.g., SADARM, WAM</li> </ul> | <ul style="list-style-type: none"> <li>– Next generation precision munitions</li> <li>– Include multiple smart submunitions with advanced target acq, discrimination, &amp; kill capabilities</li> <li>– Counter-counter measure</li> <li>– e.g. BAT</li> </ul> |

***“Precision Munitions” refer to a range of munitions with varying levels of intelligence***



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# PMLS Approach

- ★ *Use TAA and QWARRM Process*

- ★ *Two Cases*

- **Base Case:** Essentially QWARRM 07 as of 1 Sept 99
- **Improved Case:** Maximum precision available given realistic acceleration of RDTE, Production efforts into FY07 Funded delivery period e.g. FY08-09 deliveries

- ★ *Principal Results*

- Precision fire support ammo gives biggest benefit
- 130,000 ton reduction in munitions requirements between Improved Case and Base Case

- ★ *Army not currently funding Base Case*





# Precision Systems Shown to Have Greatest Impact by PMLS Study

## *Conventional Ammo*

- \* **SADARM**
- \* **EXCALIBUR**
- \* **Precision Guided Mortar Munition**
- \* **Low-Cost Competent Munition Fuzes installed on older ammo**
- \* **HORNET (WAM)**

## *Missiles*

- \* **ATACMS Block IIA**
- \* **ATACMS Block II**
- \* **MSTAR**
- \* **Guided MLRS**



# Summary PMLS Warfighting Findings

## ★ *Speed of Defeat:* \_\_\_\_\_

- Reduction in duration of intense conflict (21%)
- Increased rate of kill of threat systems (9% SWA, 25% NEA)
- Reduced depth of threat penetration (24% in NEA)

## ★ *Survivability:* \_\_\_\_\_

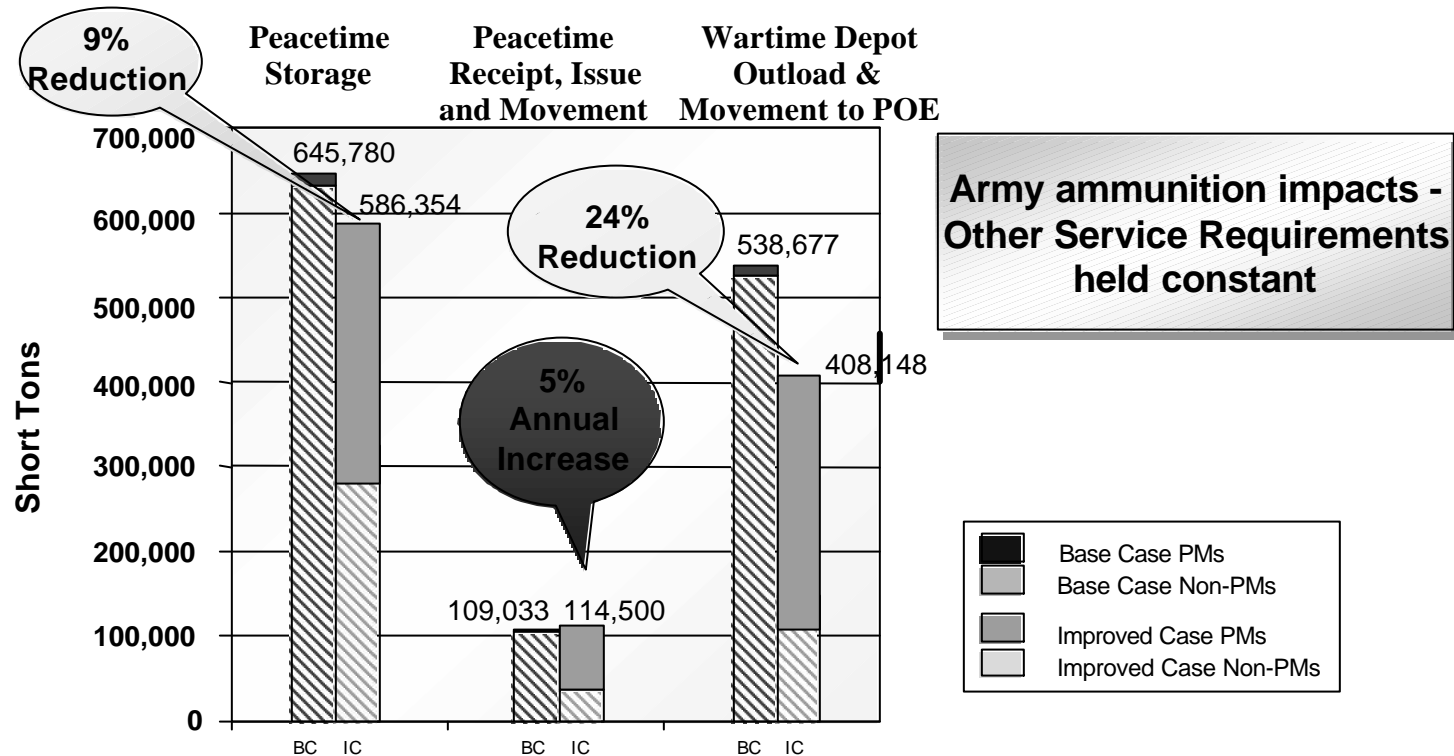
- Increased Loss / Force Exchange Ratio (21% SWA, 9% NEA)
- Reduced losses primarily in Direct Fire Systems (Tanks, APCs) (26% to 28%)

## ★ *Collateral Damage:* \_\_\_\_\_

- Reduction in collateral damage is possible with Laser Guided PMs (54:1 With PGMM)
- Reduction in number of rounds required, misses, and duds with Smart Munitions (>8:1 Rounds Required, >1000:1 on submunition misses & duds)



# CONUS Base Impact of Increased Precision Munitions



***Significant Reductions in CONUS Base and Outload Requirements***



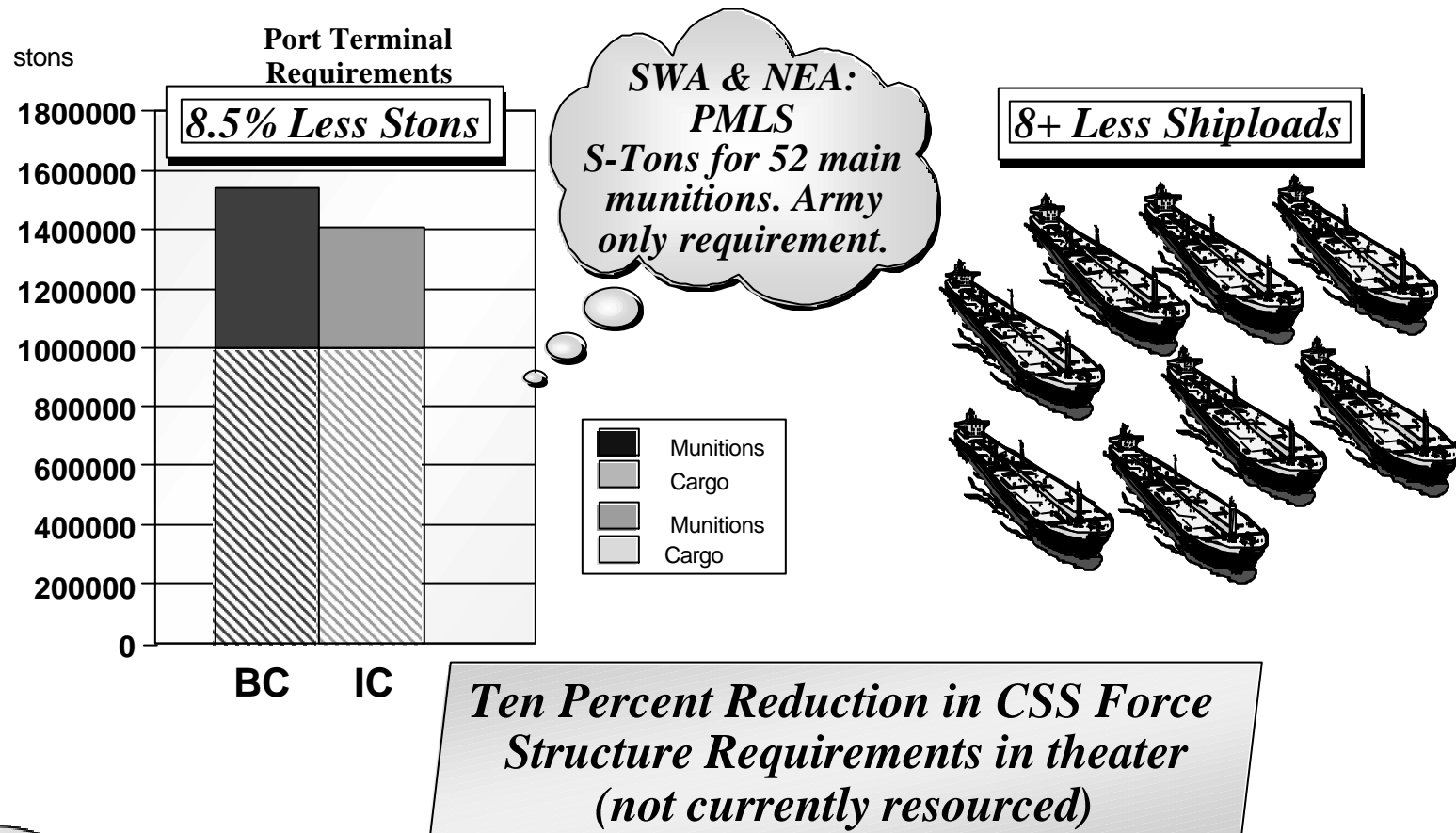
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# Impact on Theater Logistics Footprint and Strategic Lift



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# Summary of PMLS Cost & Risk Findings

**\$20+ Billion**  
**RDTE, PAA, MPA**

## ★ *Cost:*

- Procurement Costs of Munitions drive Total Life Cycle Costs
- OMA Costs essentially the same, Base Case(BC) to Improved Case(IC)
- IC Total Requirement Procurement Cost 129% greater than BC Cost
- IC Consumption Repurchase Cost 40% Greater than BC Cost

## ★ *Commander's Risk Management:*

- Precision Munitions (PMs) service specific targets effectively and efficiently complementing non-PMs within their missions.
- Judicious use of PM's in the IC improves the CINC's overall battlefield flexibility
- In some specific operational situations (Availability, Susceptibility, & Training) risk is increased.

***Require full suite of munitions:***  
***- Dumb      - Precision***



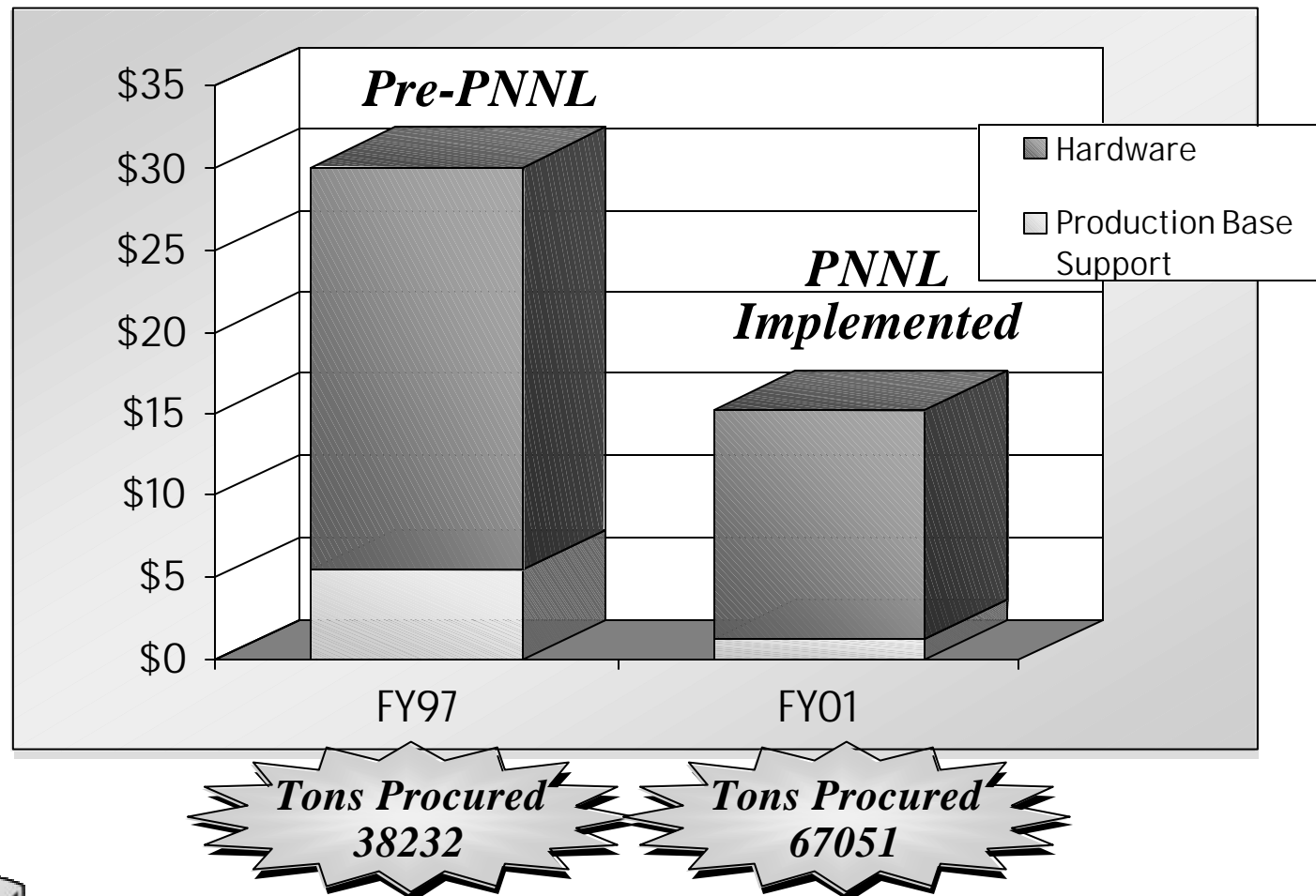
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# Ammunition Cost Reduction



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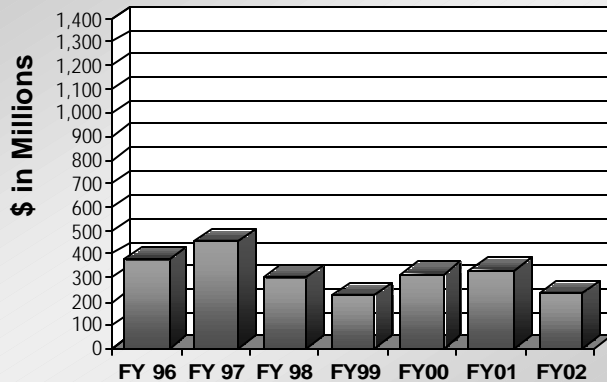
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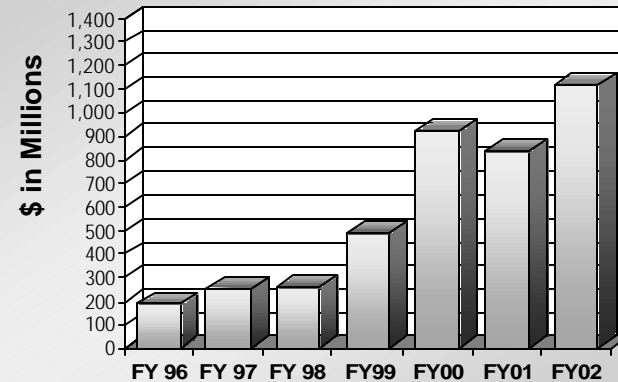
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# Acquisition / Contracting Trend

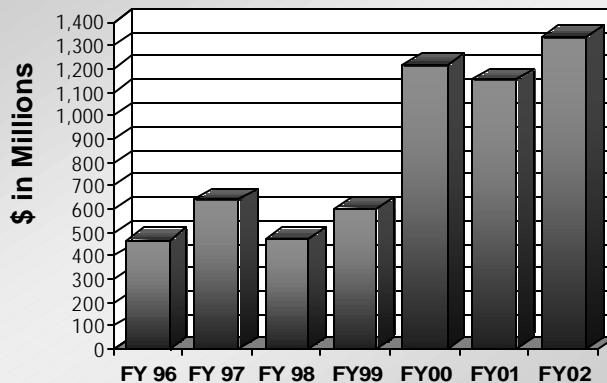
**Cost of Sole Source Contracts**



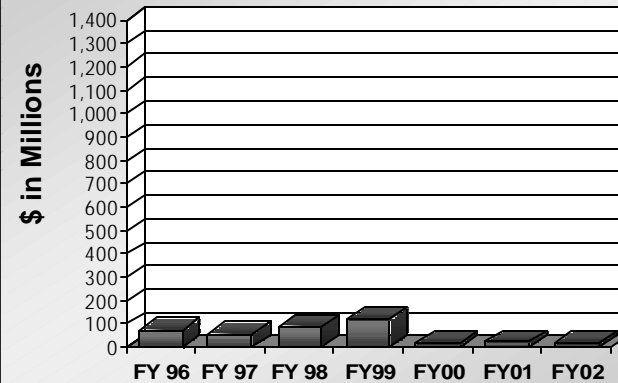
**Cost of Competitive Contracts**



**Cost of Fixed Price Contracts**



**Cost of Cost Plus Contracts**



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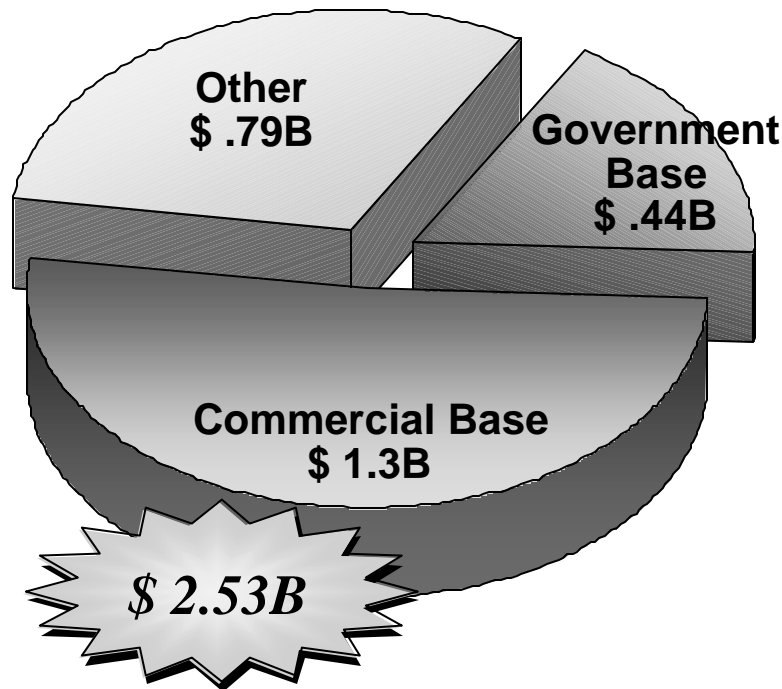
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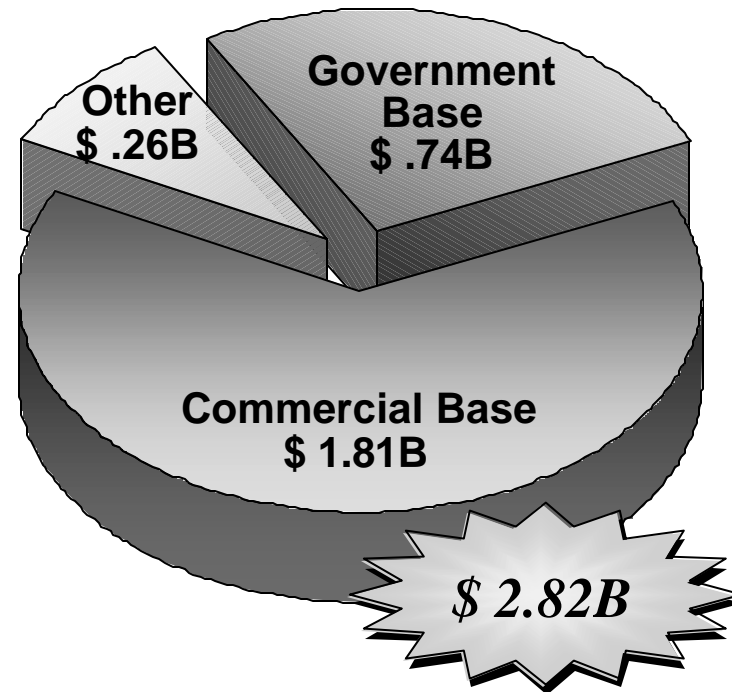
# Where the Money Goes

GOCO vs COCO vs Other

***FY96 - FY98***



***FY99 - FY03***



***Hardware Costs***



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# Sec 806 Method - Army (includes missiles)

- \* Sec 806 determination required for all programs regardless of ACAT*
- \* OSC conducts Sec 806 industrial base analysis using DoD Handbook 5000.60 as guide*
- \* Authority delegated through AAE chain to Deputy for Ammunition to identify 'acceptable' strategies/plans.*
- \* Deputy for Ammo uses OSC analysis as basis for identification of critical producers, or capabilities as 'at risk'*
- \* Deputy for Ammo determination as 'not acceptable' referred to AAE for final action*
- \* Written Acquisition Strategy or Plan required for all programs at 'at least the family level.'*



# Sec 806 Defense Implementation

- \* Deputy for Ammo publishes 'at risk' list*
- \* Deputy for Ammo reviews all munitions acquisition plans/strategies, regardless of ACAT or Service*
- \* If a problem exists, Deputy for Ammo will coordinate with other Service to resolve. EDCA will facilitate*
- \* If dispute is not resolved, the Army Acquisition Executive makes the final decision*
- \* Dr. Kaminski letter rescinded for conventional ammunition*



# Sec 806 - Processing Statistics

***Items Processed = 21 (as of Dec 00)***

(13 Army, 4 Navy, 2 Air Force & 2 FMS)

***Lowest Process Time = 3 work days***

***Highest Process Time = 86\* work days***

***Mean = 13.5 work days***

***Median = 10 work days***

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\* an anomaly



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# Summary

- ✓ *Training Is Still Driving the Ammo Program*
  - ✓ *Recapitalization May Change Program Priorities*
  - ✓ *Ammo Program Is Showing Positive Trends*
    - Costs Reduced
    - Production Up
    - Improved Contracting Methods
- 

